

WHAT IS CLAIMED IS:

1. A snowmobile comprising:

- a chassis;
- a motor disposed on the chassis;
- a ground engaging endless track disposed below the chassis and operatively connected to the motor;
- at least one ski disposed on the chassis;
- a steering mechanism operatively connected to the at least one ski;
- a support frame mounted to the steering mechanism, the support frame having at least two support frame members laterally spaced from one another; and
- a windshield detachably mounted to the support frame via at least one locking structure.

2. The snowmobile of claim 1, wherein the at least one locking structure comprises:

- a plurality of locking members, each having a shaft connected at a first end to one of the support frame members and the windshield and having an enlarged portion at a second end; and

- a plurality of locking member receiving structures associated with one of the support frame and the windshield, the plurality of locking member receiving structures arranged to releasably engage the plurality of locking members upon application of a predetermined force,

wherein engagement of the locking members and the locking member receiving structures detachably connects the windshield to the support frame.

3. The snowmobile of claim 2, wherein:

the plurality of locking member receiving structures comprise a deformable, resilient material to permit the enlarged portions of the locking members to pass therethrough and retain the windshield on the support frame upon application of the predetermined force.

4. The snowmobile of claim 1, wherein:

the support frame turns with the steering mechanism.

5. The snowmobile of claim 1, wherein:

two of the plurality of locking members extend from end portions of each support member in a spaced apart relation to one another.

6. The snowmobile of claim 1, wherein:

the windshield comprises at least one of a transparent material, a tinted, transparent material, a translucent material, and an opaque material.

7. The snowmobile of claim 1, further comprising:

a pair of hand protecting members fixedly attached to either side of the windshield.

8. The snowmobile of claim 1, further comprising:

a pair of hand protecting members fixedly attached to the steering mechanism.

9. The snowmobile of claim 2, wherein:

the plurality of locking member receiving structures are disposed through the windshield.

10. A detachable windshield assembly comprising:

a windshield support frame adapted to be mounted to a steering mechanism of a vehicle, wherein the windshield support frame includes a plurality of elongated support frame members spaced apart from one another;

a windshield locking structure provided on the windshield support frame;

and

a windshield detachably connectable to the support frame via the windshield locking structure.

11. The detachable windshield assembly of claim 10, wherein the windshield locking structure comprises:

a plurality of locking members each having a shaft rigidly connected at a first end to one of the support frame members and the windshield, the shaft having an enlarged portion at a second end; and

a plurality of locking member receiving structures associated with one of the elongated support frame members and the windshield, the plurality of locking

member receiving structures arranged to releasably engage the plurality of locking members upon application of a predetermined force,

wherein engagement of the locking members and the locking member receiving structures detachably connects the windshield to the support frame.

12. The detachable windshield assembly of claim 11, wherein:

the plurality of locking member receiving structures comprise a deformable, resilient material to permit the enlarged portions of the locking members to pass therethrough and retain the windshield on the support frame upon application of the predetermined force.

13. The detachable windshield assembly of claim 11, wherein:

two of the plurality of locking members extend from end portions of each support member in a spaced apart relation to one another.

14. The detachable windshield assembly of claim 11, wherein:

the windshield comprises at least one of a transparent material, a tinted, transparent material, a translucent material, and an opaque material.

15. The detachable windshield assembly of claim 11, further comprising:

a pair of hand protecting members fixedly attached to either side of the windshield.

16. The detachable windshield assembly of claim 12, wherein:
the plurality of locking member receiving structures are disposed through the windshield.

17. A detachable windshield assembly for a snowmobile, comprising:
a windshield mounting structure, the windshield mounting structure being constructed and arranged to be mounted to a steering mechanism of the snowmobile and extend forwardly thereof;

a releasable locking structure disposed on the windshield mounting structure;
and

a curved windshield panel, the windshield panel being constructed and arranged to be mounted generally above a hood structure of the snowmobile via the releasable locking structure in a wind blocking relation to a driver seated in a driver station and to be detachable from the windshield mounting structure upon application of a predetermined force.

18. The detachable windshield assembly of claim 17, wherein:
the releasable locking structure includes two pairs of locking members, each locking member having an enlarged portion at a first end and a second end rigidly connected to a respective support member of the windshield mounting structure.

19. The detachable windshield assembly of claim 18, wherein:

the curved windshield panel includes two pairs of locking member receiving structures arranged to releasably engage the two pairs of locking members upon application of a predetermined force.

20. The detachable windshield assembly of claim 18, wherein:

the curved windshield comprises at least one of a transparent material, a tinted, a transparent material, a translucent material, and an opaque material.

21. The detachable windshield assembly of claim 18, further comprising:

a pair of hand protecting members attached to either side of the curved windshield.

22. A method of detachably mounting a windshield to a snowmobile, comprising:

attaching a windshield support frame to a steering mechanism of the snowmobile, the windshield support frame including a plurality of elongated support frame members, each of the plurality of elongated support frame members being laterally spaced from one another, the support frame members each including at least one windshield locking member;

positioning the windshield in spaced apart relation from the windshield support frame such that at least one locking member receiving structure associated with the windshield is substantially aligned with the windshield locking member; and

press-fitting the detachable windshield onto the windshield support frame such that the locking member receiving structure engages the windshield locking member so that the windshield locking member passes through associated locking member receiving structure to retain the detachable windshield in place on the windshield support frame.

23. The snowmobile of claim 1, wherein the support frame further comprises:

a windshield support; and

a support plate moveably attached to the windshield support at one end and attached to the steering mechanism of the snowmobile at a second end.

24. The snowmobile of claim 23, wherein the windshield support further comprises at least one grommet receiving hole and at least one adjustable bolt receiving hole.

25. The snowmobile of claim 24, wherein the support plate further comprises at least one slot, wherein upon assembly, the at least one slot aligns with the at least one adjustable bolt receiving hole of the windshield support.

26. The detachable windshield assembly of claim 23, wherein the windshield support is connected to the windshield through the at least one locking member at one end thereof, a second end of the windshield support is connected to

the support plate such that the position of the windshield support with support plate is adjustable.

27. The detachable windshield assembly of claim 10, wherein the support frame further comprises:

a windshield support; and a support plate moveably attached to the windshield support at one end and attached to the steering mechanism of the snowmobile at a second end.

28. The detachable windshield assembly of claim 27, wherein the windshield support further comprises at least one grommet receiving hole and at least one adjustable bolt receiving hole.

29. The detachable windshield assembly of claim 28, wherein the support plate further comprises at least one slot, wherein upon assembly, the at least one slot aligns with the at least one adjustable bolt receiving hole of the windshield support.

30. The detachable windshield assembly of claim 29, wherein the windshield support is connected to the windshield through the at least one locking member at one end thereof, a second end of the windshield support is connected to the support plate such that the position of the windshield support with support plate is adjustable.